THAT WHICH IS CLAIMED IS:

1. A method of processing a bitstream of coded data of video sequences of progressive or interlaced pictures divisible in a top half-frame and in a bottom half-frame that comprises estimating motion vectors of groups of pixels belonging to said top half-frame of the current picture in relation to pixels belonging to the bottom half-frame of the preceding picture ($MVTOP_{X,Y}(K)$) and motion vectors of group of pixels of said bottom half-frame of the current picture in relation to pixels belonging to the top half-frame of the current picture ($MVBOT_{X,Y}(K)$), respectively, characterized in that it comprises

calculating for each macroblock of said top half-frame and a bottom half-frame a respective top motion coefficient ($VTOP_{X,Y}(K)$) and a bottom motion coefficient ($VBOT_{X,Y}(K)$), depending on the estimation of the motion vectors of top half-frame ($MVTOP_{X,Y}(K)$) and bottom half-frame ($MVBOT_{X,Y}(K)$);

recognizing the current picture as an interlaced picture by a substantial equality of the distributions of values of said motion coefficients ($VTOP_{X,Y}(K)$, $VBOT_{X,Y}(K)$) or as a progressive picture by a substantial inequality of the distributions of values of said motion coefficients ($VTOP_{X,Y}(K)$, $VBOT_{X,Y}(K)$).

2. The method of claim 1 wherein said recognition is done by the following operations:

comparing said top motion coefficients ($VTOP_{X,Y}(K)$) and bottom motion coefficients ($VBOT_{X,Y}(K)$) with a pre-established top threshold (THR1) and a bottom threshold (THR2), respectively;

counting the number of motion vectors, whose motion coefficients are lower than said top threshold

(THR1), of said top half-frames ($MVTOP_{X,Y}(K)$) and bottom half-frames ($VBOT_{X,Y}(K)$) of the current picture producing a pair of coefficients first ($N1TOP(K)$) and second ($N1BOT(K)$);

counting the number of motion vectors, whose motion coefficients are greater than said bottom threshold (THR2), of said top half-frames ($MVTOP_{X,Y}(K)$) and bottom half-frames ($VBOT_{X,Y}(K)$) of the current picture producing a second pair of coefficients third ($N2TOP(K)$) and fourth ($N2BOT(K)$);

recognizing the current picture as progressive or interlaced picture depending on said coefficients first ($N1TOP(K)$), second ($N1BOT(K)$), third ($N2TOP(K)$) and fourth ($N2BOT(K)$) relative to the current picture and to preceding pictures.

3. The method of claim 1 wherein the calculated values of said top and bottom motion coefficients are used to carry out a preliminary test consisting in

summing the motion coefficients of macroblocks belonging to the top half-frame of the current picture producing a top sum coefficient ($SVTOP(K)$);

summing the motion coefficients of macroblocks belonging to the bottom half-frame of the current picture producing a bottom sum coefficient ($SVTOP(K)$);

defining the current picture as a progressive picture if said top sum coefficient ($SVTOP(K)$) and bottom sum coefficient ($SVBOT(K)$) are lower than respective pre-established positive numbers first (T1) and second (T2), otherwise proceeding with the sequence of operations of claim 2.

4. The method of claim 1 wherein said recognition is carried out by

calculating a pair of shape coefficients first and second representing distributions of said top and bottom motion coefficients, respectively;

recognizing the current picture as a progressive picture or as an interlaced picture whether said shape coefficients differ by a quantity greater or lower than a certain value, respectively.

5. The method of claim 1 wherein said recognition is carried out by

calculating a coefficient representing the stochastic correlation between distribution of said top and bottom motion coefficients,

recognizing the current picture as an interlaced picture or as a progressive picture whether said calculated coefficient exceeds a certain value or not.

6. The method of claims 2 or 3 characterized in that it comprises

calculating a first ratio (R1(K)) between said first coefficient relative to the current picture (N1TOP(K)) and the second coefficient relative to a preceding picture (N1BOT(K-1));

calculating a second ratio (R2(K)) between said second coefficient relative to the current picture (N1BOT(K)) and said first coefficient relative to the current picture (N1TOP(K));

calculating a third ratio (R3(K)) between said third coefficient relative to the current picture (N3TOP(K)) and the fourth coefficient relative to a preceding picture (N2BOT(K-1));

calculating a fourth ratio (R4(K)) between

said fourth coefficient relative to the current picture ($N2_{BOT}(\kappa)$) and said third coefficient relative to the current picture ($N2_{TOP}(\kappa)$);

comparing said ratios first ($R1(\kappa)$), second ($R2(\kappa)$), third ($R3(\kappa)$) and fourth ($R4(\kappa)$) with respective pre-established positive numbers third (γ), fourth (δ), fifth (ε) and sixth (η) recognizing the current picture as a progressive picture if said ratios first ($R1(\kappa)$) and fourth ($R4(\kappa)$) are lower than said numbers third (γ) and sixth (η), respectively, and if simultaneously said ratios second ($R2(\kappa)$) and third ($R3(\kappa)$) are greater than said numbers fourth (δ) and fifth (ε), respectively.

7. The method of claim 6 characterized in that it comprises

dividing said ratios second ($R2(\kappa)$) and first ($R1(\kappa)$) between them producing a fifth ratio ($R5(\kappa)$);

dividing said ratios third ($R3(\kappa)$) and fourth ($R4(\kappa)$) between them producing a sixth ratio ($R6(\kappa)$);

recognizing the current picture as a progressive picture if requirements of the method of claim 6 are satisfied and if simultaneously said ratios fifth ($R5(\kappa)$) and sixth ($R6(\kappa)$) are greater than pre-established numbers seventh (q) and eighth (i).

8. The method according to one of the preceding claims characterized in that it comprises

for each elaborated picture, calculating a temporary weight value ($P(\kappa)$) as a function of the result of the recognition of the current picture as a progressive or interlaced picture carried out according to one of the methods of the preceding claims;

for each elaborated picture, calculating a final weight value ($D(\kappa)$) as a function of said

temporary weight value relative to the current picture (P(K)) and of final weight values relative to preceding pictures (D(I));

recognizing the current picture as a progressive or an interlaced picture depending on said temporary weight value relative to the current picture (P(K)) and on said final weight values relative to preceding pictures (D(I)).

9. The method of claim 1 comprising the calculation of motion vectors of a picture of a video sequence by

calculating said motion vectors by a Frame-Prediction technique if the current picture is recognized as a progressive picture or by a Field-Prediction technique if the current picture is recognized as an interlaced picture.